

IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

Claims 1-11 (canceled).

12. (currently amended) A system of production planning, operable in response to a request for production planning from a terminal operated by a user, for supporting generating at least one of a plurality of plans including a material procurement plan, a production plan, and a transportation plan each used in a production activity beginning with supply of materials ~~until~~up to transportation to a production point and/or to a marketing point by computer, said system comprising:

memory means that stores various restriction conditions, various management indices and ~~a-restriction conditional equation~~equations relating target values of the various-management indices to each other, to the restriction conditions, each restriction conditional equation being an equation in which an said restriction conditions being actual or variable-value (function) = target value + positive estrangement from the target ~~or variable-value (variable)~~ - negative estrangement from the target ~~or variable-value (variable)~~,

wherein the restriction conditions and the restriction conditional equations relating target values of the management indices to the restriction conditions are derived based on various models including models for storage of parts, semi-products and/or products considered to be in a warehouse, flows of storage into the warehouse and of storage delivery from the warehouse;

input means that accepts, from the user upon production planning,
input of various constants, information which selects the-restriction conditions
and at least two or more of the management indices stored in the memory
means, target value-values of the selected at least two or more of the
management indices, a weighting coefficient corresponding to each of the
selected at least two or more of the management indices and flags for
selecting-indicating whether the actual value of each restriction conditional
equation is optimized to be equal to, or-greater than, or less than the target
value of each of the at least two or more of the management indices which
are-have been input by the user-upon-production-planning;

calculation process means that reads restriction conditional equations
corresponding to the selected at least two or more of the management indices
selected-by-the-user-from the memory means, builds an-inputthe inputted
constants and the inputted target value-values of the selected at least two or
more of the management indices into the selected-restriction conditional
equation equations corresponding to the selected at least two or more of the
management indices, multiplies each variable that stores a positive
estrangement value or a negative estrangement value by the weighting
coefficient corresponding to each of the selected at least two or more of the
management indices and the flags, composes an objective function for
minimizing the sum total of each estrangement value according to the
restriction conditional equations corresponding to the selected at least two or
more of the management indices read from the memory means, and solves a
linear programming problem that optimizes an-the objective function including
calculating each actual value of the selected at least two or more of the

management indices according to the restriction conditional equations
corresponding to the selected at least two or more of the management indices
read from the memory means; and

output means that displays each calculated actual value of the selected
at least two or more of the management indices, which the calculation
process means calculates ~~from solutions of~~ to solve the linear programming
problem, in corresponding relation to the target values which have been
inputted by the user, on a display of said terminal in a form of a table, a radar
chart or a rod graph,

wherein the input means receives input information from the user that
are made of management indices to which the user desires change and/or
adjusted target values of the management indices,

wherein the calculation process means remakes restriction conditional
equations and the objective function according to the input information,
repeats solving a the linear programming problem, and calculating the actual
values of ~~all the~~ selected at least two or more of the management indices for
which an evaluation of trade-offs is necessary,

wherein the input means receives inputs from the user of a judgment
that all the calculated actual values of the selected at least two or more of the
management indices can be allowed,

wherein the calculation process means calculates at least one of a
materials procurement plan, a production plan of the products and/or the
semi-products, and a transportation plan according to the final optimal
solutions of the linear programming problem, and

wherein the output means outputs said calculated plans.

13. (previously presented) The system of production planning, as is defined in the claim 12, wherein each of the management indices is a combination of at least one or more of inventory, profit, sales, cost, a rate of operation, fulfilling rate of demands from marketing point, cash which production activity produces, and an efficiency at which the production activity produces cash.

14. (previously presented) The system of production planning, as is defined in the claim 12, wherein the memory means and the calculation process means are set up at a host server, the input means and the output means are set up at the user' s terminal connected through the network with the host server.

15. (currently amended) The system of production planning, as is defined in the claim 12, wherein when ~~each~~all calculated actual value-values of at least three or more of the management indices ~~is~~are displayed in radar chart form ~~or rod graph form~~, with the management indices being the smaller, the better, the display values of coordinates ~~or the length of rod~~ are made larger in reverse proportion with the magnitude of the value-, so that large and small of the quality of the evaluation is made to be shown by the large and small of the area enclosed by the radar chart

16. (currently amended) The system of production planning, as is defined in the claim 12, wherein the calculated actual values of management

indices and past ~~result~~ calculated actual values of the management indices are displayed on an the output means in a form of a radar chart or a rod graph.